

## SEQUENCE LISTING

<110> Prayaga, Sudhirdas K
 Shimkets, Richard A
 Majumder, Kumud
 Eisen, Andrew
 Vernet, Corine
 Spaderna, Steven K

## 

- <130> 15966-575B
- <140> 09/679,740
- <141> 2000-10-05
- <150> 60/157,786
- <151> 1999-10-05
- <150> 60/164,164
- <151> 1999-11-09
- <150> 60/174,505
- <151> 2000-01-04
- <150> 60/183,859
- <151> 2000-02-22
- <150> 60/190,740
- <151> 2000-03-20
- <150> 60/191,133
- <151> 2000-03-22
- <150> 60/206,006
- <151> 2000-05-19
- <150> 60/215,684
- <151> 2000-06-30
- <150> 60/219,490
- <151> 2000-07-20
- <150> 60/227,072
- <151> 2000-08-22
- <160> 151

```
<170> PatentIn Ver. 2.1
<210> 1
<211> 318
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<222> (1)..(318)
<223> wherein n is a g or t
<400> 1
gategagtag taacagccac tecaactete cacetecage ttetageace agggacegee 60
tecaccacce catgtgecaa gtggagtteg agetntgegg ceetcaagea getgaagggt 120
cccgtgagcg atcaggagaa gctgctggtc tacggcttgt acaaacaggc cacccagggc 180
gactgcgaca tccccggccc tccggcctca gacgtgagag ccagggccaa gtgggaggct 240
tggagcgcga acaaaggggc gtccaagatg gacgccatga ggggctacgc ggccaaagtg 300
gaggagctga cgaagaag
<210> 2
<211> 107
<212> PRT
<213> Homo sapiens
<400> 2
Asp Arg Val Val Thr Ala Thr Pro Thr Leu His Leu Gln Leu Leu Ala
  1
                  5
                                      10
                                                          15
Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala Lys Trp Ser Ser Ser Xaa
             20
                                 25
                                                      30
Ala Ala Leu Lys Gln Leu Lys Gly Pro Val Ser Asp Gln Glu Lys Leu
         35
                             40
                                                  45
Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile
     50
                         55
                                              60
Pro Gly Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala
                     70
 65
                                          75
                                                              80
Trp Ser Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr
                 85
                                      90
                                                          95
Ala Ala Lys Val Glu Glu Leu Thr Lys Lys Glu
```

105

100

<210> 3

<211> 351

<212> DNA

<213> Homo sapiens

<400> 3

gtataagaca tacagaagga atgcctggag agcagcaca gcccagctgc ggccaccatg 60 tccctgcagg ctgattttga catggtcaca gaagatgtga ggaagctgaa aacaagacca 120 gatgatgaag aactgaaaga actttatggg ctttacaaac aagctgtaat tggaaacatt 180 aatattgagt gttcagaaat gctagaatta aaaggcaagg ccaaatggga agcacagaac 240 ccccaaaaag gattgtcaga ggaagatatg atgcgtgcct ttatttctaa agccgaagag 300 ctgatagaaa aatatggaat ttagaataaa gcatatgata aattttcctt t

<210> 4

<211> 88

<212> PRT

<213> Homo sapiens

<400> 4

Met Ser Leu Gln Ala Asp Phe Asp Met Val Thr Glu Asp Val Arg Lys

1 10 15

Leu Lys Thr Arg Pro Asp Asp Glu Glu Leu Lys Glu Leu Tyr Gly Leu 20 25 30

Tyr Lys Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met
35 40 45

Leu Glu Leu Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys
50 55 60

Gly Leu Ser Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu
65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Ile

85

<210> 5

<211> 565

<212> DNA

<213> Homo sapiens

<400> 5

gctcacacct gtaatcccag catttgggag gccaaggcag gcagattatg tgaggtcaag 60

agttccagac cagctgtcca acatggcaaa acccatctcc actaaaaata caaaaattag 120 ccggcatggg tggcatgcag ctgtaatcac agctgctcgg gaggctgagg cggagaatca 180 cttgagctgg gaagaaaaaa aaaaaaaaaa aagatgtgca ggtattaagc actttaagac 240 caagccagca gatgatgaga tgcggttcct ttacggccac tacaaacgag cgactgtagg 300 caacataaag acagaacggc cagggatggt ggacttcaag ggcaaagcca agtgggatcc 360 ctggaattta gtgaaagggg ctgccaggga agatcccatg aaagctaaag cttacgtcaa 420 aaaagtagaa gagttaaaga aaaaattcag aatacgagg actggaattg ttgccagcca 480 tgcctttgtc ctaaactgag acaatgcctt gtttttcta cactgtggat ggtgggaact 540 gatggaaaga atcagctaac ccatc

<210> 6

<211> 138

<212> PRT

<213> Homo sapiens

<400> 6

Met Ala Lys Pro Ile Ser Thr Lys Asn Thr Lys Ile Ser Arg His Gly

1 10 15

Trp His Ala Ala Val Ile Thr Ala Ala Arg Glu Ala Glu Ala Glu Asn 20 25 30

His Leu Ser Trp Glu Glu Lys Lys Lys Lys Lys Arg Cys Ala Gly Ile 35 40 45

Lys His Phe Lys Thr Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr 50 55 60

Gly His Tyr Lys Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro 65 70 75 80

Gly Met Val Asp Phe Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu 85 90 95

Val Lys Gly Ala Ala Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val 100 105 110

Lys Lys Val Glu Glu Leu Lys Lys Phe Arg Ile Arg Glu Thr Gly
115 120 125

Ile Val Ala Ser His Ala Phe Val Leu Asn 130 135

<210> 7

<211> 310

<212> DNA

## <213> Homo sapiens

<400> 7

ttggtggtaa atgctcctt tgtttgtttg tttgttctc cttaaggctg attttgacag 60 ggctgcagaa gatgtgagga agctgaaagc aagaccagat gatggagaac tgaaagaact 120 ctatgggctt tacaaacaag caatagttgg agacattaat attgcgtgtc caggaatgct 180 agatttaaaa ggcaaagcca aatgggaagc atggaacctc aaaaaagggt tgtcgacgga 240 agatgcgacg agtgcctata tttctaaagc aaaggagctg atagaaaaat acggaattta 300 gaatacagca

<210> 8

<211> 96

<212> PRT

<213> Homo sapiens

<400> 8

Met Leu Leu Phe Val Cys Leu Phe Phe Leu Lys Ala Asp Phe Asp 1 5 10 15

Arg Ala Ala Glu Asp Val Arg Lys Leu Lys Ala Arg Pro Asp Asp Gly
20 25 30

Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln Ala Ile Val Gly Asp 35 40 45

Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys
50 55 60

Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser Thr Glu Asp Ala Thr
65 70 75 80

Ser Ala Tyr Ile Ser Lys Ala Lys Glu Leu Ile Glu Lys Tyr Gly Ile 85 90 95

<210> 9

<211> 280

<212> DNA

<213> Homo sapiens

<400> 9

accaccatgg cactgcaggc tgaattcgac aaggctgcag aagacgtgag gaagctgcca 60 acaagaccag cagataataa agaactgaaa aaactcgatg gactttacaa acaagctata 120 attggagaca ttaatattga gtatctggga atgctggact ttaagggcaa ggccaaatgc 180

gcagcatgga ccctccaaaa aaggttgtca aaggaagatg caacgagtgt ctctatttct 240 aaggcaaaag agccgataga aaaataggac atttagaata 280

<210> 10

<211> 86

<212> PRT

<213> Homo sapiens

<400> 10

Met Ala Leu Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Arg Lys

1 5 10 15

Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly
20 25 30

Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly
35 40 45

Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln 50 55 60

Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala
65 70 75 80

Lys Glu Pro Ile Glu Lys

85

<210> 11

<211> 267

<212> DNA

<213> Homo sapiens

<400> 11

accgcetcea ceacceatg tgecaagtgg agttegaget gegeggeet caageagetg 60 aagggteeg tgagegatea ggagaagetg etggtetaeg gettgtacaa acaggeeace 120 cagggegaet gegacateee eggeeeteeg geeteagaeg tgagageeag ggeeaagtgg 180 gaggettgga gegegaacaa aggggegtee aagatggaeg ecatgaggg etaegeggee 240 aaagtggagg agetgaegaa gaaggaa

<210> 12

<211> 89

<212> PRT

<213> Homo sapiens

<400> 12

1 10 Leu Lys Gln Leu Lys Gly Pro Val Ser Asp Gln Glu Lys Leu Leu Val 20 25 Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly 40 45 Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala Trp Ser 55 Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala 70 75 Lys Val Glu Glu Leu Thr Lys Lys Glu 85 <210> 13 <211> 481 <212> DNA <213> Homo sapiens <400> 13 tettettegt cageteetee aetttggeeg egtageeeet catggegtee atettggaeg 60 cccctttgtt cgcgctccaa gcctcccact tgqccctgqc tctcacqtct gagqccqqaq 120 ggccggggat gtcgcagtcg ccctgggtgg cctgtttgta caagccgtag accagcagct 180 teteetgate geteaeggga eeetteaget gettgaggge egeaaagete gaacteeact 240 tggcacatgg ggtggtggag gcggtccctg gtgctagaag ctggaggtgg agagttggag 300 tggctgttac tactcgatct cagggggagg agacaggcac gcgatgtttg tgttttqtca 360 agcacagatt gcaagctegg ggtecagegt aaaccecace atgtttggge teacaeggeg 420 cattttctgg ggaggaccag ccgtcaaaaa gcqtctagga tccggaacqc tqctqtctqq 480 481 <210> 14 <211> 273 <212> DNA <213> Homo sapiens <400> 14 gegtecatet tggaegeeee tttgttegeg etceaageet eecaettqqe eetqqetete 60 acgtctgagg ccggagggcc ggggatgtcg cagtcgccct gggtggcctg tttgtacaag 120 cegtagacca geagettete etgategete aegggaceet teagetgett gagggeegeg 180 cagetegaae tecaettgge acatggggtg gtggaggegg tecetggtge tagaagetgg 240 aggtggagag ttggagtggc tgttactact cgc 273

Thr Ala Ser Thr Thr Pro Cys Ala Lys Trp Ser Ser Ser Cys Ala Ala

```
<210> 15
 <211> 20
 <212> PRT
 <213> Homo sapiens
 <400> 15
Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp
                   5
Val Arg Ala Arg
<210> 16
<211> 20
<212> PRT
<213> Homo sapiens
<400> 16
Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met Leu Glu
                   5
                                       10
                                                           15
Leu Lys Gly Lys
              20
<210> 17
<211> 20
<212> PRT
<213> Homo sapiens
<400> 17
Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp
  1
                   5
                                                           15
Phe Lys Gly Lys
             20
<210> 18
<211> 18
<212> PRT
<213> Homo sapiens
<400> 18
Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp
```

10

```
Phe Lys
<210> 19
<211> 20
<212> PRT
<213> Homo sapiens
<400> 19
Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp
                  5
                                      10
Leu Lys Gly Lys
             20
<210> 20
<211> 18
<212> PRT
<213> Homo sapiens
<400> 20
Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp
                  5
                                      10
                                                           15
Leu Lys
<210> 21
<211> 20
<212> PRT
<213> Homo sapiens
<400> 21
Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly Met Leu Asp
                                      10
Phe Lys Gly Lys
             20
```

<210> 22 <211> 1593

<212> DNA

<213> Homo sapiens

```
atgttccagt ttcatgcagg ctcttgggaa agctggtgct gctgctgcct gattcccgcc 60
qacaqacctt gggaccgggg ccaacactgg cagctggaga tggcggacac gagatccqtg 120
cacgagacta ggtttgaggc ggccgtgaag gtgatccaga gtttgccgaa gaatggttca 180
ttccagccaa caaatgaaat gatgcttaaa ttttatagct tctataagca ggcaactqaa 240
ggaccetgta aactttcaag geetggattt tgggateeta ttggaagata taaatgggat 300
gcttggagtt cactgggtga tatgaccaaa gaggaagcca tgattgcata tgttgaaqaa 360
atgaaaaaga ttattgaaac tatgccaatg actgagaaag ttgaagaatt gctgcgtgtc 420
ataggtccat tttatgaaat tgtcgaggac aaaaagagtg gcaggagttc tgatataacc 480
tcagtccgac tggagaaaat ctctaaatgt ttagaagatc ttggtaatgt tctcacttct 540
actecaaacg ccaaaaccgt taatggtaaa gctgaaagca gtgacagtgg aqcqqaqtct 600
gaggaagaag aggcccaaga agaagtgaaa ggagcagaac acagtgataa tgataagaaa 660
atgatgaaga agtcagcaga ccataagaat ttggaagtca ttgtcactaa tggctatgat 720
aaagatggct ttgttcagga tatacagaat gacattcatg ccagttcttc cctgaatggc 780
agaagcactg aagaagtaaa gcccattgat gaaaacttgg ggcaaactgg aaaatctqct 840
gtttgcattc accaaggtat taatgatgat catgttgaag atgttacagg aattcagcat 900
ttgacaagcg attcagacag tgaagtttac tgtgattcta tggaacaatt tggacaagaa 960
gagtetttag acagetttae gtecaacaat ggaceattte agtattaett gggtggteat 1020
tccagtcaac ccatggaaaa ttctggattt cgtgaagata ttcaagtacc tcctggaaat 1080
ggcaacattg ggaatatgca ggtggttgca gttgaaggaa aaggtgaagt caagcatgga 1140
ggagaagatg gcaggaataa cagcggagca ccacaccggg aqaaqcqaqq cqqaqaaact 1200
gacgaattet etaatgttag aagaggaaga ggteatagga tgeaacaett gagegaagga 1260
accaagggcc ggcaggtggg aagtggaggt gatggggagc gctgggggctc cgacagaggg 1320
tecegaggea geeteaatga geagategee etegtgetga tgagaetgea ggaggaeatg 1380
cagaatgtcc ttcagagact gcagaaactg gaaacgctga ctgctgcaaa atcatcaaca 1440
tcaacattgc agactgctcc tcagcccacc tcatctcaga gaccatcttg gtggcccttc 1500
gagatgtctc ctggtgtgct aacgtttgcc atcatatggc cttttattgc acagtggttg 1560
gtgtatttat actatcaaag aaggagaagg taa
                                                                  1593
<210> 23
<211> 530
<212> PRT
<213> Homo sapiens
<400> 23
Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys
  1
                  5
                                     10
                                                         15
Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu
                                 25
                                                     30
Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala
         35
                             40
Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr
     50
                         55
                                             60
```

<400> 22

Asn 65	Glu	Met	Met	Leu	Lys 70	Phe	Tyr	Ser	Phe	Tyr 75	_	Gln	Ala	Thr	61 u 80
Gly	Pro	Cys	Lys	Leu 85	Ser	Arg	Pro	Gly	Phe 90	_	Asp	Pro	Ile	Gly 95	_
Tyr	Lys	Trp	Asp 100	Ala	Trp	Ser	Ser	Leu 105	Gly	Asp	Met	Thr	Lys 110	Glu	Glu
Ala	Met	Ile 115	Ala	Tyr	Val	Glu	Glu 120	Met	Lys	Lys	Ile	Ile 125	Glu	Thr	Met
Pro	Met 130	Thr	Glu	Lys	Val	Glu 135	Glu	Leu	Leu	Arg	Val 140	Ile	Gly	Pro	Phe
Tyr 145	Glu	Ile	Val	Glu	Asp 150	Lys	Lys	Ser	Gly	Arg 155	Ser	Ser	Asp	Ile	Thr 160
Ser	Val	Arg	Leu	Glu 165	Lys	Ile	Ser	Lys	Cys 170	Leu	Glu	Asp	Leu	Gly 175	Asn
Val	Leu	Thr	Ser 180	Thr	Pro	Asn	Ala	Lys 185	Thr	Val	Asn	Gly	Lys 190	Ala	Glu
Ser	Ser	Asp 195	Ser	Gly	Ala	Glu	Ser 200	Glu	Glu	Glu	Glu	Ala 205	Gln	Glu	Glu
Val	Lys 210	Gly	Ala	Glu	His	Ser 215	Asp	Asn	Asp	Lys	Lys 220	Met	Met	Lys	Lys
Ser 225	Ala	Asp	His	Lys	Asn 230	Leu	Glu	Val	Ile	Val 235	Thr	Asn	Gly	Tyr	Asp 240
Lys	Asp	Gly	Phe	Val 245	Gln	Asp	Ile	Gln	Asn 250	Asp	Ile	His	Ala	Ser 255	Ser
Ser	Leu	Asn	Gly 260	Arg	Ser	Thr	Glu	Glu 265	Val	Lys	Pro	Ile	Asp 270	Glu	Asn
Leu	Gly	Gln 275	Thr	Gly	Lys	Ser	Ala 280	Val	Cys	Ile	His	Gln 285	Gly	Ile	Asn
Asp	Asp 290	His	Val	Glu	Asp	Val 295	Thr	Gly	Ile	Gln	His 300	Leu	Thr	Ser	Asp
Ser 305	Asp	Ser	Glu	Val	Tyr 310	Cys	Asp	Ser	Met	Glu 315	Gln	Phe	Gly	Gln	Glu 320

Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr 325 330 335

Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu
340 345 350

Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val 355 360 365

Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly 370 375 380

Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly Glu Thr 385 390 395 400

Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met Gln His
405 410 415

Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly
420 425 430

Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln
435 440 445

Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu 450 455 460

Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Ala Lys Ser Ser Thr 465 470 475 480

Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Ser Gln Arg Pro Ser 485 490 495

Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile Ile 500 505 510

Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg Arg 515 520 525

Arg Arg 530

<210> 24

<211> 17

<212> PRT

<213> Homo sapiens

```
<400> 24
Gln Ala Thr Glu Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp
1 5 10 15
```

Pro

<210> 25

<211> 273

<212> DNA

<213> Homo sapiens

<400> 25

ccagtatgtc tcaggcgttt gagaaagctg ccaaggatat taagcacctt gagaccaagc 60 cagcagatga tgagaggatg ttcatctaca gccgctgcaa acaagcgact gtgcatgact 120 taaatacaga atggcccagg atgttagacc tcaaaggcaa ggcaaagcag gatgcttgga 180 atgagctgaa agacactgcc aaggaagatg ctgtgaaagc tgatatcaac aaagtagaag 240 agcgaaataa aaaatacaga atataagaga ttg

<210> 26

<211> 86

<212> PRT

<213> Homo sapiens

<400> 26

Met Ser Gln Ala Phe Glu Lys Ala Ala Lys Asp Ile Lys His Leu Glu 1 5 10 15

Thr Lys Pro Ala Asp Asp Glu Arg Met Phe Ile Tyr Ser Arg Cys Lys 20 25 30

Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp 35 40 45

Leu Lys Gly Lys Ala Lys Gln Asp Ala Trp Asn Glu Leu Lys Asp Thr 50 55 60

Ala Lys Glu Asp Ala Val Lys Ala Asp Ile Asn Lys Val Glu Glu Arg
65 70 75 80

Asn Lys Lys Tyr Arg Ile

85

<210> 27

```
<211> 20
 <212> PRT
 <213> Homo sapiens
 <400> 27
 Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
                                       10
                                                            15
 Leu Lys Gly Lys
              20
 <210> 28
 <211> 315
 <212> DNA
 <213> Homo sapiens
 <400> 28
 atgtggggcg acctctggct cctcccgcct gcctctgcca atccgggcac tgggacagag 60
gctgagtttg agaaagctgc agaggaggtt aggcacctta agaccaagcc atcggatgag 120
gagatgctgt tcatctatgg ccactacaaa caagcaactg tgggcgacat aaatacagaa 180
cggcccggga tgttggactt cacgggcaag gccaagtggg atgcctggaa tgagctgaaa 240
gggacttcca aggaagatgc catgaaagct tacatcaaca aagtagaaga gctaaagaaa 300
 aaatacggga tatga
 <210> 29
 <211> 104
<212> PRT
<213> Homo sapiens
<400> 29
Met Trp Gly Asp Leu Trp Leu Leu Pro Pro Ala Ser Ala Asn Pro Gly
                                      10
Thr Gly Thr Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His
                                  25
Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His
         35
                             40
Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met
     50
                         55
Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys
 65
                     70
                                          75
```

315

Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu

85 90 95

Glu Leu Lys Lys Lys Tyr Gly Ile 100

<210> 30

<211> 20

<212> PRT

<213> Homo sapiens

<400> 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
1 5 10 15

Phe Thr Gly Lys

20

<210> 31

<211> 1080

<212> DNA

<213> Homo sapiens

<400> 31

atgagagcca gtcagaagga ctttgaaaat tcaatgaatc aagtgaaact cttqaaaaaq 60 gatccaggaa acgaagtgaa gctaaaactc tacgcgctat ataaqcaqqc cactqaaqqa 120 cettgtaaca tgcccaaacc aggtgtattt gacttgatca acaaggccaa atgggacgca 180 tggaatgccc ttggcagcct gcccaaggaa gctgccaggc agaactatgt ggatttggtg 240 tccagtttga gtccttcatt ggaatcctct agtcaggtgg agcctggaac agacaggaaa 300 tcaactgggt ttgaaactct ggtggtgacc tccgaagatg gcatcacaaa gatcatgttc 360 aaccggccca aaaagaaaaa tgccataaac actgagatgt atcatgaaat tatgcgtgca 420 cttaaagctg ccagcaagga tgactcaatc atcactgttt taacaggaaa tggtgactat 480 tacagtagtg ggaatgatct gactaacttc actgatattc cccctggtgg agtagaggag 540 aaagctaaaa ataatgccgt tttactgagg gaatttqtqg gctqttttat agattttcct 600 aagcctctga ttgcagtggt caatggtcca gctgtgggca tctccgtcac cctccttggg 660 ctattcgatg ccgtgtatgc atctgacagg gcaacatttc atacaccatt tagtcaccta 720 ggccaaagtc cggaaggatg ctcctcttac acttttccga agataatgag cccagccaag 780 gcaacagaga tgcttatttt tggaaagaag ttaacagcgg gagaggcatg tgctcaagga 840 cttgttactg aagttttccc tgatagcact tttcagaaag aagtctggac caggctgaaq 900 gcatttgcaa agcttccccc aaatgccttg agaatttcaa aaqaqqtaat caqqaaaaqa 960 gagagagaaa aactacacgc tgttaatgct gaagaatgca atgtccttca gggaagatgq 1020 ctatcagatg aatgcacaaa tgctgtggtg aacttcttat ccagaaaatc aaaactgtga 1080

<210> 32

<211> 359

<212> PRT

_	Λ	0	Λ	_	3	7
<	4	v	U	>	- 3	7

- Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys

  1 10 15
- Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala 20 25 30
- Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly
  35 40 45
- Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu
  50 55 60
- Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val 65 70 75 80
- Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly
  85 90 95
- Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu
  100 105 110
- Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala 115 120 125
- Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala 130 135 140
- Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr 145 150 155 160
- Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
  165 170 175
- Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe 180 185 190
- Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn 195 200 205
- Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala 210 215 220
- Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu 225 230 235 240

Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met 245 250 Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr 260 265 Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp 275 280 285 Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys 295 Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg 310 315 Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu 325 330 335 Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe 340 345 Leu Ser Arg Lys Ser Lys Leu 355 <210> 33 <211> 20 <212> PRT <213> Homo sapiens <400> 33 Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly Val Phe Asp 1 10 15 Leu Ile Asn Lys 20 <210> 34 <211> 1574 <212> DNA <213> Homo sapiens

<220>
<221> misc\_feature
<222> (1)..(1574)

<223> wherein any n is an a, c, g or t

```
<400> 34
tectteccee acceegggg geccateceg gtggeggget eeggageteg ggaetgetaa 60
tttcagcgaa acgattaaaa gacgccccta cagctgacgg cactttctct cctccggcag 120
qanaqqacqt ccaqcqtacg tcnqcccqcq cttccccqcc qqcqcaqaqc aggcctcaca 180
quatcacac ccgctggcac gcacgccgcc ccgccccac ggcccagcgc cagcgcgccc 240
egegtegeac geatecegge eteactgeec etegacteet gtteegttgg aggggeetga 300
ggcgagcctg agcgcgctgt tggccggagg aagccggaga gaccgggtcg actgggcaga 360
gcggcaqaqg gtcgaggagc ctgctctgca cgcccaggga gtagaagtgg gcagggagca 420
gggtcacgtg agggagcgcg ccgcgactga gcttgggtcc gactggagct caggctcgcg 480
acceagactg gtgggccagg cctccaagcc ggccttacac ccaatccaag gaggacagac 540
cggacacaga gggacggagc gagcaaggag acatggcttc atcattcctg cccgcggggg 600
ccatcaccgg cgacagcggt ggagagctga gctcagggga cgactccggg gaggtggagt 660
tececeatag ecetgagate gaggagaeca gttgeetgge egagetgttt gagaaggetg 720
ccgcgcacct gcaaggcctg attcaggtgg ccagcaggga gcagctcttg tacctgtatg 780
ccaggtacaa acaggtcaaa gttggaaatt gtaatactcc taaaccaagc ttctttgatt 840
ttgaaggaaa gcaaaaatgg gaagcttgga aagcacttgg tgattcaagc cccagccaag 900
caatgcagga atatatcgca gtagttaaaa aactagatcc aggttggaat cctcagatac 960
cagagaagaa aggaaaagaa gcaaatacag gttttggtgg gccagttatt agttctctat 1020
atcatgaaga aaccatcagg gaagaagaca aaaatatatt tgattactgc agggaaaaca 1080
acattgacca tataaccaaa gccatcaaat cgaaaaatgt ggatgtgaat gtgaaagatg 1140
aagagggtag ggctctactt cactgggcct gtgatcgagg acataaggaa ctagtcacag 1200
tgttgctgca acatagagct gacattaact gtcaggacaa tgaaggccaa acagctctac 1260
attatgeete tgeetgtgag tttetggata ttgtagaget getgeteeag tetggtgetg 1320
accecactet cegagaceag gatggetgee tgecagagga ggtgaeagge tgeaaaaeag 1380
tttctttggt gctgcagcgg cacacaactg gcaaggctta atcaaaagac tggaaaactg 1440
cagtotgtaa tagcataagg ottocattat gaaagaaaac tacaaaaata atacttottt 1500
tccacccgtc tttggtatgt attggctaat aaaatcagtt ctgtggaact gggaaaaaaa 1560
aaaaaaaaa aaaa
                                                                  1574
<210> 35
<211> 282
<212> PRT
<213> Homo sapiens
<400> 35
Met Ala Ser Ser Phe Leu Pro Ala Gly Ala Ile Thr Gly Asp Ser Gly
                  5
  1
                                     10
                                                         15
Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His
             20
                                 25
                                                     30
Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys
         35
                             40
                                                 45
Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln
```

60

55

50

Leu	Leu	Tyr	Leu	Tyr	Ala	Arg	Tyr	Lys	Gln	Val	Lys	Val	Gly	Asn	Cys
65					70					75					80

Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp 85 90 95

Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln
100 105 110

Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln
115 120 125

Ile Pro Glu Lys Lys Gly Lys Glu Ala Asn Thr Gly Phe Gly Gly Pro 130 135 140

Val Ile Ser Ser Leu Tyr His Glu Glu Thr Ile Arg Glu Glu Asp Lys 145 150 155 160

Asn Ile Phe Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys 165 170 175

Ala Ile Lys Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly
180 185 190

Arg Ala Leu Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val 195 200 205

Thr Val Leu Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu 210 215 220

Gly Gln Thr Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile 225 230 235 240

Val Glu Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln
245 250 255

Asp Gly Cys Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu 260 265 270

Val Leu Gln Arg His Thr Thr Gly Lys Ala 275 280

<210> 36

<211> 20

<212> PRT

<213> Homo sapiens

```
<400> 36
 Gln Val Lys Val Gly Asn Cys Asn Thr Pro Lys Pro Ser Phe Phe Asp
                                       10
 Phe Glu Gly Lys
              20
<210> 37
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (4)
<223> wherein Xaa is Val, Ile or Glu
<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is Asp, Asn or Pro
<220>
<221> VARIANT
<222> (7)
<223> wherein Xaa is Ile, Leu or Cys
<220>
<221> VARIANT
<222> (8)
<223> wherein Xaa is Asn or Lys
<220>
<221> VARIANT
<222> (9)
<223> wherein Xaa is Ile, Leu, Met or Thr
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is Glu, Ser or Pro
<220>
<221> VARIANT
<222> (11)
```

<223> wherein Xaa is Lys or Arg

```
<220>
<221> VARIANT
<222> (17)
<223> wherein Xaa is Leu or Phe
<220>
<221> VARIANT
<222> (20)
<223> wherein Xaa is Lys or Arg
<400> 37
Gln Ala Thr Xaa Gly Xaa Xaa Xaa Xaa Xaa Pro Gly Met Leu Asp
                  5
                                      10
Xaa Lys Gly Xaa
             20
<210> 38
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (4)
<223> wherein Xaa is Glu, Val or Ile
<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is Asp or Pro
<220>
<221> VARIANT
<222> (7)
<223> wherein Xaa is Cys, Ile or Leu
<220>
<221> VARIANT
<222> (8)
<223> wherein Xaa is Asn or Lys
<220>
<221> VARIANT
<222> (9)
<223> wherein Xaa is Ile, Leu, Met or Thr
```

```
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is Ser or Pro
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is Tyr, Trp, Lys or Arg
<220>
<221> VARIANT
<222> (13)
<223> wherein Xaa is Gly or Arg
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is Val or Phe
<220>
<221> VARIANT
<222> (15)
<223> wherein Xaa is Phe or Trp
<220>
<221> VARIANT
<222> (17)
<223> wherein Xaa is Phe or Pro
<220>
<221> VARIANT
<222> (18)
<223> wherein Xaa is Lys or Ile
<220>
<221> VARIANT
<222> (20)
<223> wherein Xaa is Lys or Arg
<400> 38
Gln Ala Thr Xaa Gly Xaa Xaa Xaa Xaa Xaa Pro Xaa Xaa Xaa Asp
                  5
                                      10
                                                          15
```

Xaa Xaa Gly Xaa

20

```
<210> 39
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is Asp or Pro
<220>
<221> VARIANT
<222> (8)
<223> wherein Xaa is Lys, Arg or Asn
<220>
<221> VARIANT
<222> (9)
<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is Lys or Arg
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met
<220>
<221> VARIANT
<222> (15)
<223> wherein Xaa is Trp, Ala, Ile, Thr, Val, Phe, Leu
      or Met
<220>
<221> VARIANT
<222> (17)
<223> wherein Xaa is Pro, Ala, Ile, Thr, Val, Phe, Leu
      or Met
```

23

<220>

```
<221> VARIANT
<222> (19)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (20)
<223> wherein Xaa is Lys or Arg
<400> 39
Gln Ala Thr Glu Gly Xaa Cys Xaa Xaa Xaa Xaa Pro Gly Xaa Xaa Asp
                   5
                                       10
                                                           15
Xaa Ile Xaa Xaa
             20
<210> 40
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (3)
<223> wherein Xaa is Thr, Val or Lys
<220>
<221> VARIANT
<222> (4)
<223> wherein Xaa is Val or Ile
<220>
<221> VARIANT
<222> (9)
<223> wherein Xaa is Thr or Ile
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is Cys, Arg or Lys
<220>
<221> VARIANT
<222> (13)
<223> wherein Xaa is Gly, Glu or Ser
```

<220>

```
<221> VARIANT
<222> (16)
<223> wherein Xaa is Asp or Glu
<220>
<221> VARIANT
<222> (18)
<223> wherein Xaa is Thr, Lys or Glu
<400> 40
Gln Ala Xaa Xaa Gly Asn Ile Asn Xaa Glu Xaa Pro Xaa Met Leu Xaa
                   5
                                                           15
Phe Xaa Gly Lys
              20
<210> 41
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (2)
<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met
<220>
<221> VARIANT
<222> (3)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (4)
<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met
<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is Asp, Glu or Asn
<220>
<221> VARIANT
<222> (7)
<223> wherein Xaa is any amino acid
```

<220>

```
<221> VARIANT
<222> (9)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (12)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (13)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met
<220>
<221> VARIANT
<222> (15)
<223> wherein Xaa is Asp or Glu
<220>
<221> VARIANT
<222> (16)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (17)
<223> wherein Xaa is any amino acid
<400> 41
Gln Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
  1
                  5
                                     10
                                                          15
Xaa Xaa Gly Lys
             20
```

<210> 42

```
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is Asp, Asn or Pro
<220>
<221> VARIANT
<222> (7)
<223> wherein Xaa is Ile or Cys
<220>
<221> VARIANT
<222> (9)
<223> wherein Xaa is Thr, Ile, Met or Leu
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is Arg or Lys
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is Met, Val or Phe
<220>
<221> VARIANT
<222> (15)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (17)
<223> wherein Xaa is Phe or Leu
<220>
<221> VARIANT
<222> (18)
<223> wherein Xaa is any amino acid
```

```
<220>
<221> VARIANT
<222> (20)
<223> wherein Xaa is Lys or Arg
<400> 42
Gln Ala Thr Val Gly Xaa Xaa Asn Xaa Xaa Pro Gly Xaa Xaa Asp
                  5
                                      10
Xaa Xaa Gly Xaa
             20
<210> 43
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (7)
<223> wherein Xaa is Ile or Cys
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (13)
<223> wherein Xaa is Gly or Pro
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is Met or Ala
<220>
<221> VARIANT
<222> (15)
```

<223> wherein Xaa is Leu or Ser

```
<220>
<221> VARIANT
<222> (17)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (18)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (19)
<223> wherein Xaa is Gly or Ala
<220>
<221> VARIANT
<222> (20)
<223> wherein Xaa is Lys or Arg
<400> 43
Gln Ala Thr Val Gly Asp Xaa Asn Ile Xaa Xaa Pro Xaa Xaa Xaa Asp
                  5
                                      10
                                                           15
Xaa Xaa Xaa Xaa
             20
<210> 44
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (3)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (4)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (6)
```

<223> wherein Xaa is Asn, Asp or Pro

```
<220>
 <221> VARIANT
 <222> (7)
 <223> wherein Xaa is Ile or Cys
<220>
<221> VARIANT
<222> (9)
<223> wherein Xaa is Thr, Ile or Met
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is Glu or Pro
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (12)
<223> wherein Xaa is Pro, Leu or Ser
<220>
<221> VARIANT
<222> (13)
<223> wherein Xaa is Gly, Glu or Ser
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is Met, Val or Phe
<220>
<221> VARIANT
<222> (15)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (17)
<223> wherein Xaa is Phe or Leu
<220>
```

<221> VARIANT

```
<222> (18)
 <223> wherein Xaa is Lys, Ile or Glu
 <400> 44
Gln Ala Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp
                   5
                                      10
Xaa Xaa Gly Lys
<210> 45
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (2)
<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met
<220>
<221> VARIANT
<222> (3)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is Asp, Glu or Asn
<220>
<221> VARIANT
<222> (7)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is Arg or Lys
<220>
```

<221> VARIANT

```
<222> (13)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (15)
<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met
<220>
<221> VARIANT
<222> (18)
<223> wherein Xaa is any amino acid
<400> 45
Gln Xaa Xaa Val Gly Xaa Xaa Asn Thr Xaa Xaa Pro Xaa Xaa Xaa Asp
                  5
                                      10
                                                          15
Phe Xaa Gly Lys
             20
<210> 46
<211> 687
<212> DNA
<213> Homo sapiens
<400> 46
atgggagacg caggagccac ggcggccgcg cttaggcctg ctcacaacct ccgcccggcc 60
cegeccaeag ceteegeege geaegegeag teeteaegaa egagegegee aagegeaeag 120
egecgeette eggeagagee eteceaceag ceeteageae eagggacege etecaceace 180
ccatgtgcca agtggagttc gagctgcgcg gccctcaagc aqctqaaqqq tcccqtqaqc 240
gatcaggaga agctgctggt ctacggcttg tacaaacagg ccacccaggg cgactgcgac 300
atccccggcc ctccggcctc agacgtgaga gccagggcca agtgggaggc ttggagcgcg 360
aacaaagggg cgtccaagat ggacgccatg aggggctacg cggccaaagt ggaggagctg 420
acgaagaagg aagtgggggg cgtggagcgc gaacaaaggg gcgtgcaaga tggacgccat 480
gaggggctac gcggccaaag tggaggagct gacgaagaag gaagggcgtc caagatggac 540
gccatgaggg gctacgcggc caaagtggag gagctgacga agaaggaagt ggggggcgtg 600
gagcgcgaac aaaggggcgt ccaagatgga cgccatgagg ggctacgcgg ccagagtgag 660
gagatgagga agaaggaggc tggctga
                                                                   687
<210> 47
<211> 228
```

<212> PRT

<213> Homo sapiens

<400> 47

Met Gly Asp Ala Gly Ala Thr Ala Ala Leu Arg Pro Ala His Asn
1 5 10 15

Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Gln Ser Ser 20 25 30

Arg Thr Ser Ala Pro Ser Ala Gln Arg Arg Leu Pro Ala Glu Pro Ser 35 40 45

His Gln Pro Ser Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala Lys
50 55 60

Trp Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val Ser
65 70 75 80

Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr Gln 85 90 95

Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala Arg
100 105 110

Ala Lys Trp Glu Ala Trp Ser Ala Asn Lys Gly Ala Ser Lys Met Asp 115 120 125

Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys Glu 130 135 140

Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg His 145 150 155 160

Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Arg Ala 165 170 175

Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu 180 185 190

Thr Lys Lys Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln
195 200 205

Asp Gly Arg His Glu Gly Leu Arg Gly Gln Ser Glu Glu Met Arg Lys 210 215 220

Lys Glu Ala Gly

225

<210> 48

<211> 576

<212> DNA

<213> Homo sapiens

<400> 48

atgggagacg caggagccac ggcggccgcg cttaggcctg ctcacaacct ccgcccggcc 60 ccgcccacag cctccgccc gcacgccagt cctcacgaac gagcgccca agcaagccgc 120 gccttccggc agagccctcc caccagccct cagcttctag caccagggac cgcctccacc 180 accccatgtg ccaagtggag ttcgagctgc gcggccctca agcagctgaa gggtcccgtg 240 agcgatcacg agaagctgct ggtctacggc ttgtacaaac aggccaccca ggggcgactgc 300 gacatccccg gccctccagc ctcagacgtg agagccaggg ccaagtgga ggcttggagc 360 gcgaaaaaaa ggggcgtccaa gatggacgcc atgaggggct acgcggccaa agtggaggag 420 ctgacgaaga aggaagtgg gggcgtgga gcggacaaa aggagggccaaaaggggc tacgcggcca aagtggagga gctgacgaa aagtggagga 540 gcgcgaacaa aggggggtcc aaggtggaga ccatga

<210> 49

<211> 191

<212> PRT

<213> Homo sapiens

<400> 49

Met Gly Asp Ala Gly Ala Thr Ala Ala Leu Arg Pro Ala His Asn
1 5 10 15

Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Ser Pro His
20 25 30

Glu Arg Ala Arg Gln Ala Ser Arg Ala Phe Arg Gln Ser Pro Pro Thr 35 40 45

Ser Pro Gln Leu Leu Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala 50 55 60

Lys Trp Ser Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val 65 70 75 80

Ser Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr 85 90 95

Gln Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala 100 105 110

Arg Ala Lys Trp Glu Ala Trp Ser Ala Lys Lys Gly Ala Ser Lys Met

Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys 130 135 140 Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg 145 150 155 160 His Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Ser 165 170 175 Gly Gly Arg Gly Ala Arg Thr Lys Gly Arg Pro Arg Trp Thr Pro 180 185 190 <210> 50 <211> 294 <212> DNA <213> Homo sapiens <400> 50 gctgcggcca ccatgtccct gcaggctgat tttgacatgg tcacagaaga tgtgaggaag 60 ctgaaaacaa gaccagatga tgaagaactg aaagaacttt atgggcttta caaacaagct 120 gtaattggaa acattaatat tgagtgttca gaaatgctag aattaaaagg caaggccaaa 180 tgggaagcac agaaccccca aaaaggattg tcagaggaag atatgatgcg tgcctttatt 240 tctaaagccg aagagctgat agaaaaatat ggaatttaga ataaagcata tgat <210> 51 <211> 293 <212> DNA <213> Homo sapiens <400> 51 gctgaatcaa ccatgtcacc ccaggcagat tttgacaaag cagcagggga tgtaaagaaa 60 ttgaaaacaa aaccaactga cgatgaactg aaggaactgt acggactcta caagcagtcc 120 actgttgggg acataaatat agagtgtcct ggcatgctag atctgaaggg caaggccaag 180 tgggacgcat ggaacctaaa gaaaggcttg tctaaggaag atgcgatgag cgcttatgtt 240 tctaaagccc atgagctgat agaaaaatat ggcctgtaac aaggtcgcat gat 293 <210> 52 <211> 85

<212> PRT

<213> Homo sapiens

<400> 52

Gln Ala Asp Phe Asp Met Val Thr Glu Asp Val Arg Lys Leu Lys Thr

Arg Pro Asp Asp Glu Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln
20 25 30

Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met Leu Glu Leu 35 40 45

Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys Gly Leu Ser
50 55 60

Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu Glu Leu Ile
65 70 75 80

Glu Lys Tyr Gly Ile 85

<210> 53

<211> 85

<212> PRT

<213> Homo sapiens

<400> 53

Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys Lys Leu Lys Thr

1 5 10 15

Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly Phe Tyr Lys Gln
20 25 30

Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp Leu 35 40 45

Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly Ile Ser 50 55 60

Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala Lys Thr Met Val 65 70 75 80

Glu Lys Tyr Gly Ile

85

<210> 54

<211> 86

<212> PRT

<213> Homo sapiens

<400> 54

Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Lys Asn Leu Lys

1 5 10 15

Thr Lys Pro Ala Asp Asp Glu Met Leu Phe Ile Tyr Ser His Tyr Lys
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Ile Leu Asp
35 40 45

Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Gly Leu Lys Gly Thr 50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu 65 70 75 80

Lys Lys Lys Tyr Gly Ile 85

<210> 55

<211> 86

<212> PRT

<213> Homo sapiens

<400> 55

Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys His Leu Lys

1 5 10 15

Thr Lys Pro Ala Asp Glu Glu Met Leu Phe Ile Tyr Ser His Tyr Lys
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp 35 40 45

Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr
50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asp Lys Val Glu Glu Leu 65 70 75 80

Lys Lys Lys Tyr Gly Ile

85

<210> 56

<211> 86

<212> PRT

<213> Homo sapiens

<400> 56

Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu Lys
1 5 10 15

-

Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr Lys
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp 35 40 45

Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr 50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu 65 70 75 80

Lys Lys Tyr Gly Ile 85

<210> 57

<211> 88

<212> PRT

<213> Homo sapiens

<400> 57

Met Ser Leu Gln Ala Asp Phe Asp Met Val Thr Glu Asp Val Arg Lys

1 10 15

Leu Lys Thr Arg Pro Asp Asp Glu Glu Leu Lys Glu Leu Tyr Gly Leu 20 25 30

Tyr Lys Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met 35 40 45

Leu Glu Leu Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys 50 55 60

Gly Leu Ser Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu 65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Ile

85

<210> 58

```
<213> Homo sapiens
<400> 58
Lys Arg Cys Ala Gly Ile Lys His Phe Lys Thr Lys Pro Ala Asp Asp
                  5
                                      10
                                                           15
Glu Met Arg Phe Leu Tyr Gly His Tyr Lys Arg Ala Thr Val Gly Asn
             20
                                  25
Ile Lys Thr Glu Arg Pro Gly Met Val Asp Phe Lys Gly Lys Ala Lys
         35
                              40
                                                   45
Trp Asp Pro Trp Asn Leu Val Lys Gly Ala Ala Arg Glu Asp Pro Met
     50
                          55
Lys Ala Lys Ala Tyr Val Lys Lys Val Glu Glu Leu Lys Lys Lys Phe
                      70
                                          75
                                                               80
Arg Ile
<210> 59
<211> 80
<212> PRT
<213> Homo sapiens
Lys Ala Ala Glu Glu Val Lys His Leu Lys Thr Lys Pro Ala Asp Glu
  1
                  5
                                      10
                                                           15
Glu Met Leu Phe Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp
             20
                                  25
                                                       30
Ile Asn Thr Glu Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys
         35
                              40
                                                  45
Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr Ser Lys Glu Asp Ala Met
     50
                          55
                                              60
Lys Ala Tyr Ile Asp Lys Val Glu Glu Leu Lys Lys Lys Tyr Gly Ile
 65
                     70
                                          75
                                                               80
```

<211> 82 <212> PRT <210> 60

<211> 91

<212> PRT

<213> Homo sapiens

<400> 60

Glu Lys Lys Lys Lys Lys Arg Cys Ala Gly Ile Lys His Phe Lys Thr 1 5 10 15

Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr Gly His Tyr Lys Arg
20 25 30

Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp Phe 35 40 45

Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu Val Lys Gly Ala Ala 50 55 60

Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val Lys Lys Val Glu Glu 65 70 75 80

Leu Lys Lys Phe Arg Ile Arg Glu Thr Gly 85 90

<210> 61

<211> 88

<212> PRT

<213> Homo sapiens

<400> 61

Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu Lys Thr 1 5 10 15

Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr Lys Gln
20 25 30

Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp Phe
35 40 45

Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr Ser 50 55 60

Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu Lys
65 70 75 80

Lys Lys Tyr Gly Ile Glu Thr Gly

<210> 62 <211> 138 <212> PRT <213> Homo sapiens

<400> 62

Met Ala Lys Pro Ile Ser Thr Lys Asn Thr Lys Ile Ser Arg His Gly
1 5 10 15

Trp His Ala Ala Val Ile Thr Ala Ala Arg Glu Ala Glu Ala Glu Asn 20 25 30

His Leu Ser Trp Glu Glu Lys Lys Lys Lys Lys Arg Cys Ala Gly Ile 35 40 45

Lys His Phe Lys Thr Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr 50 55 60

Gly His Tyr Lys Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro 65 70 75 80

Gly Met Val Asp Phe Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu 85 90 95

Val Lys Gly Ala Ala Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val 100 105 110

Lys Lys Val Glu Glu Leu Lys Lys Lys Phe Arg Ile Arg Glu Thr Gly
115 120 125

Ile Val Ala Ser His Ala Phe Val Leu Asn 130 135

<210> 63

<211> 86

<212> PRT

<213> Homo sapiens

<400> 63

Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys His Leu Lys 1 5 10 15

Thr Lys Pro Ala Asp Glu Glu Met Leu Phe Ile Tyr Ser His Tyr Lys
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp 35 40 45

Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr
50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asp Lys Val Glu Glu Leu 65 70 75 80

Lys Lys Lys Tyr Gly Ile 85

<210> 64

<211> 86

<212> PRT

<213> Homo sapiens

<400> 64

Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu Lys

1 5 10 15

Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr Lys
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp 35 40 45

Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr 50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu 65 70 75 80

Lys Lys Lys Tyr Gly Ile 85

<210> 65

<211> 256

<212> DNA

<213> Homo sapiens

<400> 65

aggctgattt tgacagggct gcagaagatg tgaggaagct gaaagcaaga ccagatgatg 60 gagaactgaa agaactctat gggctttaca aacaagcaat agttggagac attaatattg 120 cgtgtccagg aatgctagat ttaaaaggca aagccaaatg ggaagcatgg aacctcaaaa 180

```
aaqqqttqtc qacqqaaqat gcgacqaqtq cctatatttc taaaqcaaaq qaqctqataq 240
aaaaatacgg aattta
                                                                   256
<210> 66
<211> 256
<212> DNA
<213> Homo sapiens
<400> 66
aggcagattt tgacaaagca gcaggggatg taaagaaatt gaaaacaaaa ccaactgacg 60
atgaactgaa ggaactgtac ggactctaca agcagtccac tgttggggac ataaatatag 120
agtgtcctgg catgctagat ctgaagggca aggccaagtg ggacgcatgg aacctaaaga 180
aaggettgte taaggaagat gegatgageg ettatgttte taaageeeat gagetgatag 240
aaaaatatqq cctqta
                                                                   256
<210> 67
<211> 258
<212> DNA
<213> Homo sapiens
<400> 67
aggctgattt tgacagggct gcagaagatg tgaggaagct gaaagcaaga ccagatgatg 60
gagaactgaa agaactctat gggctttaca aacaagcaat agttggagac attaatattg 120
cgtgtccagg aatgctagat ttaaaaggca aagccaaatg ggaagcatgg aacctcaaaa 180
aagggttgtc gacggaagat gcgacgagtg cctatatttc taaagcaaag gagctgatag 240
aaaaatacgg aatttaga
                                                                   258
<210> 68
<211> 259
<212> DNA
<213> Homo sapiens
<400> 68
aggetgagtt tgagaaaget geagaggagg ttaggeaeet taagaeeaag eeateggatg 60
aggagatget gtteatetat ggeeactaea aacaageaae tgtgggegae ataaataeag 120
aacggcccgg gatgttggac ttcacgggca aggccaagtg ggatgcctgg aatgagctga 180
aagggacttc caaggaagat gccatgaaag cttacatcaa caaagtagaa gagctaaaga 240
aaaaatacgg gatatgaga
                                                                   259
<210> 69
<211> 88
<212> PRT
<213> Homo sapiens
```

<400> 69

Phe Phe Leu Lys Ala Asp Phe Asp Arg Ala Ala Glu Asp Val Arg Lys

1 5 10 15

Leu Lys Ala Arg Pro Asp Asp Gly Glu Leu Lys Glu Leu Tyr Gly Leu 20 25 30

Tyr Lys Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met
35 40 45

Leu Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys 50 55 60

Gly Leu Ser Thr Glu Asp Ala Thr Ser Ala Tyr Ile Ser Lys Ala Lys
65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Ile 85

<210> 70

<211> 89

<212> PRT

<213> Homo sapiens

<400> 70

Phe Phe Leu His Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys

1 5 10 15

Lys Leu Lys Thr Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly
20 25 30

Phe Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly
35 40 45

Met Leu Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys
50 55 60

Lys Gly Ile Ser Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala 65 70 75 80

Lys Thr Met Val Glu Lys Tyr Gly Ile

85

<210> 71

<211> 85

<212> PRT

<213> Homo sapiens

<400> 71

Lys Ala Asp Phe Asp Arg Ala Ala Glu Asp Val Arg Lys Leu Lys Ala 1 5 10 15

Arg Pro Asp Asp Gly Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln 20 25 30

Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu 35 40 45

Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser 50 55 60

Thr Glu Asp Ala Thr Ser Ala Tyr Ile Ser Lys Ala Lys Glu Leu Ile
65 70 75 80

Glu Lys Tyr Gly Ile

85

<210> 72

<211> 85

<212> PRT

<213> Homo sapiens

<4.00> 72

Xaa Ala Asp Phe Asp Xaa Ala Ala Xaa Asp Val Xaa Lys Leu Lys Xaa 1 5 10 15

Xaa Pro Xaa Asp Xaa Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln
20 25 30

Xaa Xaa Val Gly Asp Ile Asn Ile Xaa Cys Pro Gly Met Leu Asp Leu 35 40 45

Lys Gly Lys Ala Lys Trp Xaa Ala Trp Asn Leu Lys Lys Gly Leu Ser
50 55 60

Xaa Glu Asp Ala Xaa Ser Ala Tyr Xaa Ser Lys Ala Xaa Glu Leu Ile 65 70 75 80

Glu Lys Tyr Gly Xaa

85

<210> 73

```
<211> 85
<212> PRT
<213> Homo sapiens
<400> 73
Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys Leu Lys Thr
                  5
                                      10
Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln
             20
                                  25
                                                      30
Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp Leu
         35
                             40
Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys Gly Leu Ser
     50
                         55
                                              60
Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His Glu Leu Ile
 65
                     70
                                          75
Glu Lys Tyr Gly Leu
<210> 74
<211> 96
<212> PRT
<213> Homo sapiens
Met Leu Leu Phe Val Cys Leu Phe Phe Leu Lys Ala Asp Phe Asp
                  5
Arg Ala Ala Glu Asp Val Arg Lys Leu Lys Ala Arg Pro Asp Asp Gly
             20
                                 25
                                                      30
Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln Ala Ile Val Gly Asp
         35
Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys
     50
                         55
Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser Thr Glu Asp Ala Thr
65
                     70
                                         75
                                                              80
```

85

Ser Ala Tyr Ile Ser Lys Ala Lys Glu Leu Ile Glu Lys Tyr Gly Ile

90

<210> 75

<211> 88

<212> PRT

<213> Homo sapiens

<400> 75

Met Ser Pro Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys

1 10 15

Leu Lys Thr Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu 20 25 30

Tyr Lys Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met
35 40 45

Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys 50 55 60

Gly Leu Ser Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His 65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Leu 85

<210> 76

<211> 103

<212> PRT

<213> Homo sapiens

<400> 76

Met Phe Gln Ala His Leu Leu Arg Gly Thr Leu Thr Leu Ser Phe Phe 1 5 10 15

Leu His Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys Lys Leu 20 25 30

Lys Thr Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly Phe Tyr 35 40 45

Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu 50 55 60

Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly

65 70 75 80

Ile Ser Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala Lys Thr 85 90 95

Met Val Glu Lys Tyr Gly Ile 100

<210> 77

<211> 87

<212> PRT

<213> Homo sapiens

<400> 77

Met Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu
1 5 10 15

Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr 20 25 30

Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu 35 40 45

Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly
50 55 60

Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu 65 70 75 80

Leu Lys Lys Lys Tyr Gly Ile 85

<210> 78

<211> 274

<212> DNA

<213> Homo sapiens

<400> 78

ccaccatggc actgcaggct gaattcgaca aggctgcaga agacgtgagg aagctgccaa 60 caagaccagc agataataaa gaactgaaaa aactcgatgg actttacaaa caagctataa 120 ttggagacat taatattgag tatctgggaa tgctggactt taagggcaag gccaaatgcg 180 cagcatggac cctccaaaaa aggttgtcaa aggaagatgc aacgagtgtc tctatttcta 240 aggcaaaaga gccgatagaa aaataggaca ttta

<210> 79

```
<211> 271
<212> DNA
<213> Homo sapiens
<400> 79
caaccatgtc accccaggca gattttgaca aagcagcagg ggatgtaaag aaattgaaaa 60
caaaaccaac tgacgatgaa ctgaaggaac tgtacggact ctacaagcag tccactgttg 120
gggacataaa tatagagtgt cctggcatgc tagatctgaa gggcaaggcc aagtgggacg 180
catggaacct aaagaaaggc ttgtctaagg aagatgcgat gagcgcttat gtttctaaag 240
cccatgagct gatagaaaaa tatggcctgt a
                                                                   271
<210> 80
<211> 262
<212> DNA
<213> Homo sapiens
<400> 80
caggetgaat tegacaagge tgeagaagae gtgaggaage tgecaacaag accageagat 60
aataaagaac tgaaaaaact cgatggactt tacaaacaag ctataattgg agacattaat 120
attgagtatc tgggaatgct ggactttaag ggcaaggcca aatgcgcagc atggaccctc 180
caaaaaaggt tgtcaaagga agatgcaacg agtgtctcta tttctaaggc aaaagagccg 240
atagaaaaat aggacattta ga
<210> 81
<211> 260
<212> DNA
<213> Homo sapiens
<400> 81
caggetgagt ttgagaaage tgeagaggag gttaggeace ttaagaecaa geeateggat 60
gaggagatgc tgttcatcta tggccactac aaacaagcaa ctgtgggcga cataaataca 120
gaacggcccg ggatgttgga cttcacgggc aaggccaagt gggatgcctg gaatgagctg 180
aaagggactt ccaaggaaga tgccatgaaa gcttacatca acaaagtaga agagctaaag 240
aaaaaatacg ggatatgaga
                                                                   260
<210> 82
<211> 86
<212> PRT
<213> Homo sapiens
<400> 82
Met Ala Leu Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Arg Lys
  1
                  5
                                     10
                                                          15
```

Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly

20 25

30

Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly 35 40

Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln ... 50 55

Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala 65 70 75

Lys Glu Pro Ile Glu Lys 85

<210> 83

<211> 85

<212> PRT

<213> Homo sapiens

<400> 83

Met Ser Pro Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys 5 10

Leu Lys Thr Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu 20 25

Tyr Lys Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met 35 40

Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys 50 55

Gly Leu Ser Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His 65 70 75

Glu Leu Ile Glu Lys

85

<210> 84

<211> 88

<212> PRT

<213> Homo sapiens

<400> 84

Met Ser Pro Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys 10 15

Leu Lys Thr Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu 20 25 30

Tyr Lys Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met
35 40 45

Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys 50 55 60

Gly Leu Ser Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His
65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Leu

85

<210> 85

<211> 103

<212> PRT

<213> Homo sapiens

<400> 85

Met Phe Gln Ala His Leu Leu Arg Gly Thr Leu Thr Leu Ser Phe Phe 1 5 10 15

Leu His Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys Lys Leu 20 25 30

Lys Thr Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly Phe Tyr 35 40 45

Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu 50 55 60

Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly
65 70 75 80

Ile Ser Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala Lys Thr
85 90 95

Met Val Glu Lys Tyr Gly Ile 100

<210> 86

<211> 87

<212> PRT

<213> Homo sapiens

<400> 86

Met Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu 1 5 10 15

Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr 20 25 30

Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu
. 35 40 45

Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly
. 50 55 60

Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu 65 70 75 80

Leu Lys Lys Lys Tyr Gly Ile 85

<210> 87

<211> 86

<212> PRT

<213> Homo sapiens

<400> 87

Met Ala Leu Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Arg Lys

1 10 15

Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly 20 25 30

Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly
35 40 45

Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln
50 55 60

Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala
65 70 75 80

Lys Glu Pro Ile Glu Lys

85

<210> 88

	$\hat{}$	•	•		-	$\neg$	_
<	7.	1	1	>	5	_5	u

<212> PRT

<213> Homo sapiens

<400> 88

Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys 1 5 10 15

Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu 20 25 30

Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala 35 40 45

Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr 50 55 60

Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu 65 70 75 80

Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg
85 90 95

Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
100 105 . 110

Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met 115 120 125

Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe 130 135 140

Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr
145 150 155 160

Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly Asn 165 170 175

Val Leu Thr Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala Glu 180 185 190

Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Glu Ala Gln Glu Glu
195 200 205

Val Lys Gly Ala Glu His Ser Asp Asn Asp Lys Lys Met Met Lys Lys 210 215 220

Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly Tyr Asp

225	230	235	240

- Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser 245 250 255
- Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn 260 265 270
- Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Gly Ile Asn 275 280 285
- Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp 290 295 300
- Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu 305 310 315 320
- Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr 325 330 335
- Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu 340 345 350
- Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val 355 360 365 .
- Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly 370 375 380
- Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly Glu Thr 385 390 395 400
- Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met Gln His
  405 410 415
- Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly 420 425 430
- Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln
  435 440 445
- Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu 450 455 460
- Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Ala Lys Ser Ser Thr 465 470 475 480
- Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Ser Gln Arg Pro Ser

485 490 495

Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile Ile 500 505 510

Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg Arg 515 520 525

Arg Arg 530

<210> 89

<211> 530

<212> PRT

<213> Homo sapiens

<400> 89

Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys 1 5 10 15

Cys Leu Ile Pro Gly Asp Arg Pro Trp Asp Arg Gly Arg Arg Trp Arg
20 25 30

Leu Glu Met Arg His Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala .35 40 45

Ala Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro
50 55 60

Thr Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr
65 70 75 80

Glu Gly Pro Cys Lys Leu Ser Lys Pro Gly Phe Trp Asp Pro Val Gly
85 90 95

Arg Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu
100 105 110

Glu Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Leu Glu Thr 115 120 125

Met Pro Met Thr Glu Lys Val Glu Glu Leu Leu His Val Ile Gly Pro 130 135 140

Phe Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Leu 145 150 155 160

Thr	Ser	. Val	. Arg	165		Lys	Ile	Ser	Lys 170		Leu	ı Glu	Asp	Let 175	Gly
Asn	val	. Leu	180		Thr	Pro	Asn	Ala 185		5 Thr	Val	Asn	Gly 190	_	: Ala
Glu	Ser	Ser 195		Ser	Gly	Ala	Glu 200		Glu	ı Glu	Glu	Ala 205		Gln	Glu
Asp	Pro 210		Arg	Pro	Glu	Pro 215		Asp	Ser	Asp	Lys 220		Met	Met	Lys
Lys 225		Ala	Asp	His	Lys 230	Asn	Leu	Glu	Ile	1le 235		Thr	Asn	Gly	Tyr 240
Asp	Lys	Asp	Ser	Phe 245	Val	Gln	Gly	Val	Gln 250		Ser	Ile	His	Thr 255	Ser
Pro	Ser	Leu	Asn 260	Gly	Arg	Cys	Thr	Glu 265	Glu	Val	Lys	Ser	Val 270	Asp	Glu
Asn	Leu	Glu 275	Gln	Thr	Gly	Lys	Thr 280	Val	Val	Phe	Val	His 285	Gln	Asp	Val
Asn	Ser 290	Asp	His	Val	Glu	Asp 295	Ile	Ser	Gly	Ile	Gln 300	His	Leu	Thr	Ser
Asp 305	Ser	Asp	Ser	Glu	Val 310	туг	Cys	Asp	Ser	Met 315	Glu	Gln	Phe	Gly	Gln 320
Glu	Glu	Ser	Leu	Asp 325	Gly	Phe	Ile	Ser	Asn 330	Asn	Gly	Pro	Phe	Ser 335	Tyr
Tyr	Leu	Gly	Gly 340	Asn	Pro	Ser	Gln	Pro 345	Leu	Glu	Ser	Ser	Gly 350	Phe	Pro
Glu	Ala	Val 355	Gln	Gly	Leu	Pro	Gly 360	Asn	Gly	Ser	Pro	Glu 365	Asp	Met	Gln
Gly	Ala 370	Val	Val	Glu	Gly	Lys 375	Gly	Glu	Val	Lys	Arg 380	Gly	Gly	Glu	Asp
Gly 385	Gly	Ser	Asn		Gly 390	Ala	Pro	His	Arg	Glu 395	Lys	Arg .	Ala	Gly	Glu 400
Ser	Glu	Glu	Phe	Ser 405	Asn	Ile	Arg .		Gly 410	Arg	Gly	His .		Met 415	Gln

His Leu Ser Glu Gly Ser Lys Gly Arg Gln Val Gly Ser Gly Gly Asp 420 425 430

Gly Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu
435 440 445

Gln Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val 450 455 460

Leu Gln Arg Leu His Lys Leu Glu Met Leu Ala Ala Ser Gln Ala Lys 465 470 475 480

Ser Ser Ala Leu Gln Thr Ser Asn Gln Pro Thr Ser Pro Arg Pro Ser 485 490 495

Trp Trp Pro Phe Glu Met Ser Pro Gly Ala Leu Thr Phe Ala Ile Ile 500 505 510

Trp Pro Phe Ile Ala Gln Trp Leu Val His Leu Tyr Tyr Gln Arg Arg 515 520 525

Arg Arg 530

<210> 90

<211> 86

<212> PRT

<213> Homo sapiens

<400> 90

Met Ser Gln Ala Phe Glu Lys Ala Ala Lys Asp Ile Lys His Leu Glu
1 5 10 15

Thr Lys Pro Ala Asp Asp Glu Arg Met Phe Ile Tyr Ser Arg Cys Lys
20 25 30

Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp 35 40 45

Leu Lys Gly Lys Ala Lys Gln Asp Ala Trp Asn Glu Leu Lys Asp Thr 50 55 60

Ala Lys Glu Asp Ala Val Lys Ala Asp Ile Asn Lys Val Glu Glu Arg
65 70 75 80

Asn Lys Lys Tyr Arg Ile

85

<210> 91 <211> 87 <212> PRT <213> Homo sapiens <400> 91 Met Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys His Leu 10 15 Lys Thr Lys Pro Ala Asp Glu Glu Met Leu Phe Ile Tyr Ser His Tyr 20 25 Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu 35 40 45 Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly 50 55 60 Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asp Lys Val Glu Glu 70 75 80 Leu Lys Lys Lys Tyr Gly Ile 85 <210> 92 <211> 104 <212> PRT <213> Homo sapiens <400> 92 Met Trp Gly Asp Leu Trp Leu Leu Pro Pro Ala Ser Ala Asn Pro Gly 5 1 10 15 Thr Gly Thr Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His 20 25 30 Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His

40

55

70

Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met

Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys

45

80

75

35

50

65

Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu 85 90 95

Glu Leu Lys Lys Lys Tyr Gly Ile 100

<210> 93

<211> 104

<212> PRT

<213> Homo sapiens

<400> 93

Met Trp Gly Asp Leu Trp Leu Leu Pro Pro Ala Ser Ala Asn Pro Gly
1 5 10 15

Thr Gly Thr Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His
20 25 30

Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His
35 40 45

Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met 50 55 60

Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys
65 70 75 80

Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu 85 90 95

Glu Leu Lys Lys Lys Tyr Gly Ile 100

<210> 94

<211> 359

<212> PRT

<213> Homo sapiens

<400> 94

Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys

1 5 10 15

Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala 20 25 30

Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly

35

- Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu 50 55 60
- Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val 65 70 75 80
- Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly
  85 90 95
- Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu
  100 105 110
- Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala 115 120 125
- Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala 130 135 140
- Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr 145 150 155 160
- Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
  165 170 175
- Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe 180 185 190
- Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn 195 200 205
- Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala 210 215 220
- Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu 225 230 235 240
- Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met 245 250 255
- Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr 260 265 270
- Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp 275 280 285
- Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys

290 295 300

Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg 305 310 315 320

Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu
325 330 335

Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe 340 345 350

Leu Ser Arg Lys Ser Lys Leu . 355

<210> 95

<211> 359

<212> PRT

<213> Homo sapiens

<400> 95

Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys

1 5 10 15

Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala 20 25 30

Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly
35 40 45

Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu 50 55 60

Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val 65 70 75 80

Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly
85 90 95

Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu
100 105 110

Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala 115 120 125

Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala 130 135 140

Ser	Lys	Asp	Asp	Ser	Ile	Ile	Thr	Val	Leu	Thr	Gly	Asn	Gly	Asp	Tyr
145					150					155					160

- Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
  165 170 175
- Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe 180 185 190

4

- Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn 195 200 205
- Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala 210 215 220
- Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu 225 230 235 240
- Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met 245 250 255
- Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr 260 265 270
- Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp 275 280 285
- Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys 290 295 300
- Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg 305 310 315 320
- Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu 325 330 335
- Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe 340 345 350

Leu Ser Arg Lys Ser Lys Leu 355

<210> 96

<211> 282

<212> PRT

<213> Homo sapiens

-1	$\sim$	$\sim$	_	Q	c

- Met Ala Ser Ser Phe Leu Pro Ala Gly Ala Ile Thr Gly Asp Ser Gly

  1 5 10 15
- Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His 20 25 30
- Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys
  35 40 45
- Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln
  50 55 60
- Leu Leu Tyr Leu Tyr Ala Arg Tyr Lys Gln Val Lys Val Gly Asn Cys
  65 70 75 80
- Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp 85 90 95
- Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln
  100 105 110
- Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln 115 120 125
- Ile Pro Glu Lys Lys Gly Lys Glu Ala Asn Thr Gly Phe Gly Gly Pro 130 135 140
- Val Ile Ser Ser Leu Tyr His Glu Glu Thr Ile Arg Glu Glu Asp Lys 145 150 155 160
- Asn Ile Phe Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys 165 170 175
- Ala Ile Lys Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly
  180 185 190
- Arg Ala Leu Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val 195 200 205
- Thr Val Leu Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu 210 215 220
- Gly Gln Thr Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile 225 230 235 240
- Val Glu Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln
  245 250 255

Asp Gly Cys Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu 260 265 270

Val Leu Gln Arg His Thr Thr Gly Lys Ala 275 280

<210> 97

<211> 279

<212> PRT

<213> Homo sapiens

<400> 97

Met Ala Ser Ser Phe Leu Pro Ala Gly Ala Ile Thr Gly Asp Ser Gly
1 5 10 15

Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His
20 25 30

Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys 35 40 45

Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln 50 55 60

Leu Leu Tyr Leu Tyr Ala Arg Tyr Lys Gln Val Lys Val Gly Asn Cys
65 70 75 80

Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp 85 90 95

Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln
100 105 110

Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln
115 120 125

Ile Pro Glu Lys Lys Arg Lys Arg Ser Lys Tyr Lys Val Trp Ala Ser 130 135 140

Tyr Phe Ser Ile Ser Arg Asn His Gln Gly Arg Asp Lys Asn Ile Phe 145 150 155 160

Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys Ala Ile Lys 165 170 175

Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly Arg Ala Leu

180 185 190

Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val Thr Val Leu 195 200 205

Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu Gly Gln Thr 210 215 220

Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile Val Glu Leu 225 230 235 240

Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln Asp Gly Cys 245 250 255

Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu Val Leu Gln 265 270

Arg His Thr Thr Gly Lys Ala 275

<210> 98

<211> 89

<212> PRT

<213> Homo sapiens

<400> 98

Thr Ala Ser Thr Thr Pro Cys Ala Lys Trp Ser Ser Ser Cys Ala Ala 1 5 10 15

Leu Lys Gln Leu Lys Gly Pro Val Ser Asp Gln Glu Lys Leu Leu Val 20 25 30

Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly
35 40 45

Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala Trp Ser 50 55 60

Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala 65 70 75 80

Lys Val Glu Glu Leu Thr Lys Lys Glu

85

<210> 99

<211> 104

<212> PRT

<213> Homo sapiens

<400> 99

Met Trp Gly Asp Leu Trp Leu Leu Pro Pro Ala Ser Ala Asn Pro Gly
1 5 10 15

Thr Gly Thr Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His
20 25 30

Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His
35 40 45

Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met 50 55 60

Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys
65 70 75 80

Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu 85 90 95

Glu Leu Lys Lys Lys Tyr Gly Ile 100

<210> 100

<211> 86

<212> PRT

<213> Homo sapiens

<400> 100

Met Ser Gln Ala Phe Glu Lys Ala Ala Lys Asp Ile Lys His Leu Glu
1 5 10 15

Thr Lys Pro Ala Asp Asp Glu Arg Met Phe Ile Tyr Ser Arg Cys Lys
20 25 30

Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
35 40 45

Leu Lys Gly Lys Ala Lys Gln Asp Ala Trp Asn Glu Leu Lys Asp Thr 50 55 60

Ala Lys Glu Asp Ala Val Lys Ala Asp Ile Asn Lys Val Glu Glu Arg
65 70 75 80

Asn Lys Lys Tyr Arg Ile

<210> 101 <211> 138

<212> PRT

<213> Homo sapiens

<400> 101

Met Ala Lys Pro Ile Ser Thr Lys Asn Thr Lys Ile Ser Arg His Gly
1 5 10 15

Trp His Ala Ala Val Ile Thr Ala Ala Arg Glu Ala Glu Ala Glu Asn 20 25 30

His Leu Ser Trp Glu Glu Lys Lys Lys Lys Lys Arg Cys Ala Gly Ile 35 40 45

Lys His Phe Lys Thr Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr 50 55 60

Gly His Tyr Lys Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro 65 70 75 80

Gly Met Val Asp Phe Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu 85 90 95

Val Lys Gly Ala Ala Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val 100 105 110

Lys Lys Val Glu Glu Leu Lys Lys Phe Arg Ile Arg Glu Thr Gly
115 120 125

Ile Val Ala Ser His Ala Phe Val Leu Asn 130 135

<210> 102

<211> 96

<212> PRT

<213> Homo sapiens

<400> 102

Met Leu Leu Phe Val Cys Leu Phe Phe Leu Lys Ala Asp Phe Asp
1 5 10 15

Arg Ala Ala Glu Asp Val Arg Lys Leu Lys Ala Arg Pro Asp Asp Gly
20 25 30

Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln Ala Ile Val Gly Asp 35 40 45

Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys
50 55 60

Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser Thr Glu Asp Ala Thr
65 70 75 80

Ser Ala Tyr Ile Ser Lys Ala Lys Glu Leu Ile Glu Lys Tyr Gly Ile 85 90 95

<210> 103

<211> 88

<212> PRT

<213> Homo sapiens

<400> 103

Met Ser Leu Gln Ala Asp Phe Asp Met Val Thr Glu Asp Val Arg Lys

1 10 15

Leu Lys Thr Arg Pro Asp Asp Glu Glu Leu Lys Glu Leu Tyr Gly Leu 20 25 30

Tyr Lys Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met 35 40 45

Leu Glu Leu Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys 50 55 60

Gly Leu Ser Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu
65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Ile 85

<210> 104

<211> 86

<212> PRT

<213> Homo sapiens

<400> 104

Met Ala Leu Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Arg Lys 10 Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly 20 25 Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly 40 Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln 55 Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala 70 75 Lys Glu Pro Ile Glu Lys <210> 105 <211> 282 <212> PRT <213> Homo sapiens <400> 105 Met Ala Ser Ser Phe Leu Pro Ala Gly Ala Ile Thr Gly Asp Ser Gly 5 10 15 Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His 20 25 30 Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys 40 45 Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln 50 55 Leu Leu Tyr Leu Tyr Ala Arg Tyr Lys Gln Val Lys Val Gly Asn Cys 70 75 Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp 85 90 Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln

120

105

Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln

110

125

100

115

Ile Pro Glu Lys Lys Gly Lys Glu Ala Asn Thr Gly Phe Gly Gly Pro 130 135 Val Ile Ser Ser Leu Tyr His Glu Glu Thr Ile Arg Glu Glu Asp Lys 145 150 155 Asn Ile Phe Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys 165 170 Ala Ile Lys Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly 180 185 190 Arg Ala Leu Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val 195 200 205 Thr Val Leu Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu 210 215 220 Gly Gln Thr Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile 225 230 235 240 Val Glu Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln 245 250 255 Asp Gly Cys Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu 260 265 270 Val Leu Gln Arg His Thr Thr Gly Lys Ala 275 280 <210> 106 <211> 359 <212> PRT

<213> Homo sapiens

<400> 106

Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys

1 5 10 15

Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala 20 25 30

Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly
35 40 45

Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu

50

- Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val 65 70 Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly 95 Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu 110
- Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Asn Ala 115 120 125
- Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala 130 135 140
- Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr 145 150 155 160
- Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
  165 170 175
- Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe 180 185 190
- Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn 195 200 205
- Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala 210 215 220
- Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu 225 230 235 240
- Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met 245 250 255
- Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr 260 265 270
- Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp 275 280 285
- Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys 290 295 300
- Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg

305 310 315 320

Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu 325 330 335

Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe 340 345 350

Leu Ser Arg Lys Ser Lys Leu 355

<210> 107

<211> 530

<212> PRT

<213> Homo sapiens

<400> 107

Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys 1 5 10 15

Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu 20 25 30

Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala 35 40 45

Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr 50 55 60

Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu
65 70 75 80

Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg 85 90 95

Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
100 105 110

Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met 115 120 125

Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe 130 135 140

Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr 145 150 155 160

Ser	Val	Arg	Leu	Glu 165	Lys	Ile	Ser	Lys	Cys 170	Leu	Glu	Asp	Leu	Gly 175	Asn
Val	Leu	Thr	Ser 180	Thr	Pro	Asn	Ala	Lys 185	Thr	Val	Asn	Gly	Lys 190	Ala	Glu
Ser	Ser	Asp 195	Ser	Gly	Ala	Glu	Ser 200	Glu	Glu	Glu	Glu	Ala 205	Gln	Glu	Glu
Val	Lys 210	Gly	Ala	Glu	His	Ser 215	Asp	Asn	Asp	Lys	Lys 220	Met	Met	Lys	Lys
Ser 225	Ala	Asp	His	Lys	Asn 230	Leu	Glu	Val	Ile	Val 235	Thr	Asn	Gly	Tyr	Asp 240
Lys	Asp	Gly	Phe	Val 245	Gln	Asp	Ile	Gln	Asn 250	Asp	Ile	His	Ala	Ser 255	Ser
Ser	Leu	Asn	Gly 260	Arg	Ser	Thr	Glu	Glu 265	Val	Lys	Pro	Ile	Asp 270	Glu	Asn
Leu	Gly	Gln 275	Thr	Gly	Lys	Ser	Ala 280	Val	Cys	Ile	His	Gln 285	Gly	Ile	Asn
Asp	Asp 290	His	Val	Glu	Asp	Val 295	Thr	Gly	Ile	Gln	His 300	Leu	Thr	Ser	Asp
Ser 305	Asp	Ser	Glu	Val	Tyr 310	Cys	Asp	Ser	Met	Glu 315	Gln	Phe	Gly	Gln	Glu 320
Glu	Ser	Leu	Asp	Ser 325	Phe	Thr	Ser	Asn	Asn 330	Gly	Pro	Phe	Gln	Tyr 335	Tyr
Leu	Gly	Gly	His 340	Ser	Ser	Gln	Pro	Met 345	Glu	Asn	Ser	Gly	Phe 350	Arg	Glu
Asp	Ile	Gln 355	Val	Pro	Pro	Gly	Asn 360	Gly	Asn	Ile	Gly	Asn 365	Met	Gln	Val
	370				Lys	375					380	_		-	_
385					Ala 390					395					400
Asp	Glu	Phe	Ser	Asn 405	Val	Arg	Arg	Gly	Arg 410	Gly	His	Arg	Met	Gln 415	His

Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly 425 430 420 Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln 435 440 Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu 450 455 460 Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Ala Lys Ser Ser Thr 470 475 Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Ser Gln Arg Pro Ser 485 490 Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile Ile 500 505 510 Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg Arg 520 525 Arg Arg 530 <210> 108 <211> 20 <212> PRT <213> Homo sapiens <400> 108 Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp 1 5 10 15 Phe Thr Gly Lys 20 <210> 109 <211> 20

<212> PRT

<213> Homo sapiens

<400> 109

Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp 10 15

Phe Lys Gly Lys

20

```
<210> 110
<211> 20
<212> PRT
<213> Homo sapiens
<400> 110
Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met Leu Glu
                  5
                                      10
Leu Lys Gly Lys
<210> 111
<211> 20
<212> PRT
<213> Homo sapiens
<400> 111
Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly Met Leu Asp
                  5
                                      10
                                                           15
Phe Lys Gly Lys
             20
<210> 112
<211> 20
<212> PRT
<213> Homo sapiens
<400> 112
Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp
                                      10
                                                           15
Leu Lys Gly Lys
<210> 113
<211> 20
<212> PRT
<213> Homo sapiens
```

<400> 113

```
Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
  1
                   5
                                      10
Leu Lys Gly Lys
<210> 114
<211> 20
<212> PRT
<213> Homo sapiens
<400> 114
Gln Val Lys Val Gly Asn Cys Asn Thr Pro Lys Pro Ser Phe Phe Asp
                  5
Phe Glu Gly Lys
             20
<210> 115
<211> 20
<212> PRT
<213> Homo sapiens
<400> 115
Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly Val Phe Asp
                  5
                                      10
                                                        . 15
Leu Ile Asn Lys
             20
<210> 116
<211> 20
<212> PRT
<213> Homo sapiens
<400> 116
Gln Ala Thr Glu Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp
 1
                  5
                                      10
                                                           15
Pro Ile Gly Arg
             20
```

76

<210> 117 <211> 20

```
<212> PRT
<213> Homo sapiens
<400> 117
Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp
                                      10
Val Arg Ala Arg
             20
<210> 118
<211> 18
<212> PRT
<213> Homo sapiens
<400> 118
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
 1
                  5
                                      10
                                                           15
Phe Thr
<210> 119
<211> 18
<212> PRT
<213> Homo sapiens
Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp
                  5
                                      10
                                                           15
Leu Lys
<210> 120
<211> 18
<212> PRT
<213> Homo sapiens
<400> 120
Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp
 1
                  5
                                      10
                                                           15
```

Phe Lys

<210> 121 <211> 32 <212> PRT <213> Bos taurus <400> 121 Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu 5 10 15 Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 <210> 122 <211> 32 <212> PRT <213> Homo sapiens <400> 122 Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu 5 Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30 <210> 123 <211> 32 <212> PRT <213> Drosophila melanogaster <400> 123 Leu Tyr Ser Leu Tyr Lys Gln Ala Thr Val Gly Asp Cys Asn Thr Asp 5 10

Lys Pro Gly Phe Leu Asp Phe Lys Gly Lys Ala Lys Trp Glu Ala Trp

25

30

20

<210> 124

<211> 32

<212> PRT

<213> Gallus gallus

<400> 124

Val Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Val Asn Thr Asp 1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 125

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<400> 125

Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 126

<211> 32

<212> PRT

<213> Homo sapiens

<400> 126

Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp

20 25 30

<210> 127

<211> 32

<212> PRT

<213> turtle

<400> 127

Ile Tyr Ser His Phe Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Phe Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 128

<211> 32

<212> PRT

<213> mallard

<400> 128

Val Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Val Asn Thr Asp 1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 129

<211> 32

<212> PRT

<213> Mus musculus

<400> 129

Ile Tyr Ser His Phe Lys Gln Ala Thr Val Gly Asp Val Asn Thr Asp 1 5 10 15

Arg Pro Gly Leu Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ser Trp

20 25 30

<210> 130

<211> 32

<212> PRT

<213> Sus scrofa

<400> 130

Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Ile Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 131

<211> 32

<212> PRT

<213> Bos taurus

<400> 131

Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 132

<211> 32

<212> PRT

<213> Homo sapiens

<400> 132

Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp

20 25 30

<210> 133

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<400> 133

Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 134

<211> 32

<212> PRT

<213> Homo sapiens

<400> 134

Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 135

<211> 32

<212> PRT

<213> Anas platyrhynchos

<400> 135

```
Leu Tyr Gly Phe Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu
1 5 10 15
```

Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp
20 25 30

<210> 136

<211> 32

<212> PRT

<213> turtle

<400> 136

Ile Tyr Ser His Phe Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu

1 5 10 15

Arg Pro Gly Phe Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp 20 25 30

<210> 137

<211> 20

<212> PRT

<213> Homo sapiens

<400> 137

Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp 1 5 10 15

Leu Lys Gly Lys

20

<210> 138

<211> 20

<212> PRT

<213> Homo sapiens

<400> 138

Gln Ala Ser Val Gly Asp Asn Asp Thr Ala Lys Pro Gly Leu Leu Asp 1 5 10 15

```
Leu Lys Gly Lys
             20
<210> 139
<211> 20
<212> PRT
<213> Homo sapiens
<400> 139
Gln Ala Ser Val Gly Asp Asn Asp Thr Ala Lys Pro Gly Leu Leu Asp
                                      10
Leu Lys Gly Lys
             20
<210> 140
<211> 20
<212> PRT
<213> Homo sapiens
<400> 140
Gln Ala Thr Val Gly Asp Asn Asn Thr Glu Lys Pro Gly Leu Leu Asp
                                      10
Leu Lys Gly Lys
             20
<210> 141
<211> 20
<212> PRT
<213> Bos taurus
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
  1
                  5
                                      10
                                                           15
Phe Lys Gly Lys
             20
<210> 142
<211> 20
```

84

<212> PRT

<213> Mus musculus

```
Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp
Leu Lys Gly Lys
<210> 143
<211> 20
<212> PRT
<213> Rattus norvegicus
<400> 143
Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp
                  5
                                      10
Leu Lys Gly Lys
             20
<210> 144
<211> 20
<212> PRT
<213> Sus scrofa
<400> 144
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Ile Leu Asp
                  5
                                      10
                                                           15
Leu Lys Gly Lys
             20
<210> 145
<211> 20
<212> PRT
<213> Bos taurus
<400> 145
Gln Ala Thr Glu Gly Pro Cys Lys Leu Ser Lys Pro Gly Phe Trp Asp
                  5
                                      10
                                                          15
Pro Val Gly Arg
             20
```

<400> 142

<210> 146

```
<211> 20
<212> PRT
<213> Cyprinus carpio
<400> 146
Gln Ala Thr Gln Gly Pro Cys Asn Thr Pro Lys Pro Ser Met Leu Asp
                  5
                                      10
                                                           15
Phe Val Asn Lys
             20
<210> 147
<211> 20
<212> PRT
<213> Mus musculus
<400> 147
Gln Ala Thr Glu Gly Thr Cys Asn Met Pro Lys Pro Gly Met Leu Asp
                                      10
Phe Val Asn Lys
             20
<210> 148
<211> 20
<212> PRT
<213> Homo sapiens
<220>
<221> VARIANT
<222> (2)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (3)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
```

<222> (7)

```
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is Arg or Lys
<220>
<221> VARIANT
<222> (13)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (15)
<223> wherein Xaa is any amino acid
<220>
<221> VARIANT
<222> (18)
<223> wherein Xaa is any amino acid
Gln Xaa Xaa Val Gly Xaa Xaa Asn Thr Xaa Xaa Pro Xaa Xaa Xaa Asp
                  5
                                      10
                                                           15
Phe Xaa Gly Lys
             20
<210> 149
<211> 89
<212> PRT
<213> Homo sapiens
<400> 149
Thr Ala Ser Thr Thr Pro Cys Ala Lys Trp Ser Ser Ser Cys Ala Ala
                                      10
                                                           15
```

Leu Lys Gln Leu Lys Gly Pro Val Ser Asp Gln Glu Lys Leu Leu Val 20 25 30

Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly 35 40 45

Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala Trp Ser 50 55 60

Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala 65 70 75 80

Lys Val Glu Glu Leu Thr Lys Lys Glu 85

<210> 150

<211> 228

<212> PRT

<213> Homo sapiens

<400> 150

Met Gly Asp Ala Gly Ala Thr Ala Ala Ala Leu Arg Pro Ala His Asn

1 5 10 15

Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Gln Ser Ser 20 25 30

Arg Thr Ser Ala Pro Ser Ala Gln Arg Arg Leu Pro Ala Glu Pro Ser 35 40 45

His Gln Pro Ser Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala Lys
50 55 60

Trp Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val Ser
65 70 75 80

Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr Gln
85 90 95

Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala Arg
100 105 110

Ala Lys Trp Glu Ala Trp Ser Ala Asn Lys Gly Ala Ser Lys Met Asp 115 120 125

Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys Glu

130 135 140

Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg His 145 150 155 160

Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Arg Ala 165 170 175

Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu 180 185 190

Thr Lys Lys Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln 195 200 205

Asp Gly Arg His Glu Gly Leu Arg Gly Gln Ser Glu Glu Met Arg Lys 210 215 220

Lys Glu Ala Gly 225

<210> 151

<211> 191

<212> PRT

<213> Homo sapiens

<400> 151

Met Gly Asp Ala Gly Ala Thr Ala Ala Ala Leu Arg Pro Ala His Asn 1 5 10 15

Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Ser Pro His
20 25 30

Glu Arg Ala Arg Gln Ala Ser Arg Ala Phe Arg Gln Ser Pro Pro Thr
35 40 45

Ser Pro Gln Leu Leu Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala 50 55 60

Lys Trp Ser Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val 65 70 75 80

Ser Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr 85 90 95

Gln Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala 100 105 110

Arg Ala Lys Trp Glu Ala Trp Ser Ala Lys Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg His Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Ser Gly Gly Arg Gly Ala Arg Thr Lys Gly Arg Pro Arg Trp Thr Pro